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ABSTRACT

Area Vocational Technical Schools (AVTS) in Pennsylvania were surveyed to determine the extent of cooperation between AVTS adult vocational education programs as well as business and industry. Findings indicated that most students were referred by business and industry to AVTS adult programs for vocational/technical training. The average number of students enrolled in cosponsored classes was greater for job-related enrichment activities. Adult education directors reported a closer working relationship and cooperative effort with small industries. The average number of hours per week spent by adult program directors for program promotion was approximately 25 hours for successful and 3 hours for unsuccessful operators. Time constraints, lack of business and industry interest, and private sector interest in profit were major barriers to cooperation. The greatest benefit derived from cooperation with business and industry was increased program visibility. One of the greatest costs to the AVTS was programming problems. Lack of funds was perceived by directors as the greatest barrier to cooperation. Lack of commitment by business and industry was the factor that most limited successful cooperation. Good communications were the most important factor contributing to success. The method most used to contact business and industry relative to establishing a cooperative program was the telephone. (Fifteen tables are included.) (YLB)

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Improved Cooperation Between ATTS Adult Education Programs and Business/Industry in the State of Pennsylvania

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December, 1983

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INTRODUCTION

The information and data contained in this report result from a survey conducted by the Division of Occupational and Vocational Studies at The Pennsylvania State University in the Spring of 1983. The population surveyed was the area vocational technical schools in the state of Pennsylvania. All 93 AVTS's in the state were sent surveys and of the total, 48 were returned.

The primary purpose of the survey was to determine the extent of cooperation between AVTS Adult Education Programs and Business/Industry in the Commonwealth. The results of that survey are contained in this report. The information in this document is somewhat extensive and is designed for use by AVTS administrators as a resource for whatever purpose they so desire.

The assumptions and opinions contained in this report are solely those of the researcher and do not reflect those of the U.S. Department of Education, the Pennsylvania Department of Education, The Pennsylvania State University, or the Division of Occupational and Vocational Studies at The Pennsylvania State University.

James H. Wise, Jr.

PURPOSES AND PROCEDURES OF STUDY

Adult education is receiving a great deal of attention in both the public education sector and the private business sector. If we accept the premise that adult education is a purposeful and deliberate activity in which adults engage, it becomes obvious that the public school is not the only source for adult education. Training conducted by business and industry must be considered a major component of the adult education enterprise. It is estimated that business and industry spends between $40 billion and $100 billion per year on job-related adult education. Obviously, the private sector considers adult education to be an important element in their operation. Accepting this precept, there exists an opportunity for cooperation between public school adult education programs and business and industry.

Cooperation between public sector education and business and industry is important for a number of reasons. New sources of both funds and students would be an advantage to many education institutes in the public sector. With the decreasing budgets and enrollments in many schools today, the acquisition of operating resources from private sources is extremely important. A significant reason to have a cooperative effort is to avoid duplication of services yet promote greater employability of adults.

Cooperation between AVTS adult education programs and business and industry is considered to be important and desirable in Pennsylvania. This is especially true for the public sector. The issue, then, is to obtain the necessary data to determine to what extent cooperative endeavors exist in the state. This study has attempted to answer this question.

PURPOSE OF SURVEY

The primary objective of the survey was to obtain information that would help to determine the extent of cooperation between Public Adult Vocational Education programs at Area Vocational Technical Schools and business and industry. The following assumptions were made: first, it is important to understand what factors either facilitate or impede cooperation, for if those factors which facilitate cooperation can be encouraged and those which impede it reduced, a more productive strategy for increasing cooperation can be developed. On the other hand, if facilitating factors can not be increased and impediments removed, it would be a waste of time and effort attempting to increase cooperation. Similarly important, is to gain insight into costs and benefits of cooperation. If there are substantial benefits and minimal costs, increased effort would be warranted in promoting cooperation. On the other hand, if costs are high and benefits minimal, promoting cooperative relationships would not be productive.

PROCEDURES

The study incorporated three steps designed to gain the information needed to fulfill the stated goals and objectives of the project. The sequence is as follows:

1. Selecting a survey sample
2. Developing a survey questionaire
3. Gathering and analyzing questionaire responses
4. Disseminating the results

Selecting the Survey Samples

The survey sample consisted of 44 area vocational technical schools in Pennsylvania. Surveys were mailed to all of the area vocational technical schools in the state of Pennsylvania. The total number comprising that population was 93. The total number returned was 44 which makes up the sample for this survey.

Developing the Survey Questionaire

A survey questionaire was developed that would attempt to obtain the needed data to fulfill the purpose of this study. Many of the survey questions were adopted from a project conducted at Rutgers University in 1980. The Rutgers project was directed by Harold W. Beder and Gorden G. Darkenwald. The project attempted to answer the same questions as has been posed in this study.

Data Analysis

All data from the survey was coded and verified for analysis using the Statistical Analysis System (SAS) available at The Pennsylvania State University.

Two types of statistics were used in the analysis of this study: descriptive and inferential. Descriptive statistics used includes means, standard deviation percentage, and frequency distribution. Procedure commands such as PROC FREQ and PROC MEANS in the Statistical Analysis System served this analytical purpose and provided an appropriate picture of the sample.

The major inferential technique used was the two-tailed T-Test to determine whether there were differences between groups. The criterion for statistical significance was set at 0.05.

Dissemination

Results of this study will be distributed to the Pennsylvania Department of Education, The Division of Occupational and Vocational Studies at the Pennsylvania State University, and all area vocational technical schools who requested project results on their returned survey. Additional copies will be available upon request from the Division of Occupational and Vocational studies at the Pennsylvania State University.

Limitations of the Survey

The major limitation of the survey relates to external validity or the extent to which findings can be generalized to area vocational technical school adult education programs.

Even though a lot of time and expense was expended in trying to have surveys returned from area vocational technical school directors, only approximately 48 percent responded.

The length of the questionaire (ten pages) may have been the major reason for such a low response rate.

It is quite possible that the findings are distorted due to the low response rate. However, there is no basis for believing that bias does exist, but the possibility cannot be ruled out. If bias does exist, is is probably a function of over representation by schools that have experienced a successful cooperative effort and were willing to share their success. Therefore, estimates of the extent of cooperation may be on the high side.

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COOPERATION BETWEEN BUSINESS/INDUSTRY AND PUBLIC ADULT VOCATIONAL EDUCATION AT AREA VOCATIONAL TECHNICAL SCHOOLS

In analyzing the Area Vocational/Technical Schools Adult Education/Business Industry Survey relative to cooperation, many interesting bits of data became apparent. The following is a description of survey results and data tables. Table I clearly shows that business and industry refers more students for vocational-technical training purposes than for any other reason. Next to vocational-technical, business and industry refers a moderate number of students for high school completion, job enrichment and job counseling. Few students were referred for adult basic education purposes. It should be noted that business and industry might have referred students to adult education classes for reasons other than those detailed in Table I.

Area Vocational Technical School Adult Education Programs indicated that approximately 81% of the programs did not have referrals for high school completion or equivalency classes. However, at the other end of the spectrum, only 3.8% of the responding programs indicated no referrals for vocational/technical training. Based on available data, it would seem that the majority of business/industry referrals to AVTS adult programs are for vocational-technical training than for any other program. This implies that the major source of motivation for industry to send students to adult classes in the Area Vocational-Technical Schools is technical skill development.

A close pattern is evident in the co-sponsorship of adult education programs between Area Vocational-Technical Schools and business and industry. On the average, more vocational-technical activities are sponsored jointly by the Area Vocational-Technical Schools and business

TABLE I

Referral of Students to AVTS Adult Education Programs by Business and Industry

Purpose of Referral	Average Number of Students Referred (N=32)	Percent of Programs Indicating No Referrals (N=26)
For basic skills (ABE, ESL)	35.5	26
For high school completion or equivalent	55.0	80.8
For vocational/technical training	172.7	3.8
For job-related enrichment activities	58.0	53.8
For job counseling/employability skills development	56.0	73.1
For any reason	104.7	23.1

and industry.

The percent of programs indicating no co-sponsorship is higher for basic skill programs; Adult Basic Education (ABE) and English as a Second Language (ESL) than for any other purpose. Close examination of Table 2 reveals that except for vocational-technical training, all other activities have a high percentage of no sponsorship. An explanation for this might be, that on the average, the American work force is literate. That is a possible explanation as to the reasons there are fewer programs for basic skills and high school completion. The third column of the table reveals conflicting information in that there are considerably higher numbers of students in basic skills programs on the average next to job-related enrichment activities being the highest in student population. Table 3 reveals that Area VocationalTechnical School Adult Education Programs cooperate most closely with small manufacturing companies with proprietary schools being cooperated with on a much lesser scale. Cooperation with remaining catagories of business and industry groups is somewhat close and service companies have relatively less cooperation.

The reason for small manufacturing industries having the closest cooperation might be explained in terms of their relatively small number of employees. It may not be economical to establish a training department in small manufacturing industries because of the small number of employees. Whereas, for large and medium manufacturing companies, their direct involvement in employee training has been growing rapidly during the last decade and it is more cost effective for them to have in-house training programs.

Factors Accounting for Success in Cooperation

If the cooperation between the Area Vocational-Technical School

TABLE 2

Incidence of Co-Sponsorship Between Pennsylvania AVTS Adult Education Programs and Business and Industry

(N = 35)

Purpose	Average Number of Classes/ Activities Co-Sponsored	Percent of Programs Indicating No Co-Sponsorships	Average Number of Students Enrolled in Co-Sponsored Classes
For basic skills (ABE, ESL)	1.0	80	120.0
For high school completion or equivalent	4.5	74.3	67.5
For vocational/technical training	6.6	22.9	113.4
For job-related enrichment activities	3.8	57.1	150.6
For job counseling/ employability skills development	2.2	57.1	26.0
For any reason	2.5	25.7	47.5

TABLE 3

AVTS Adult Education Directors' Self-Reported Closeness of Cooperation With Various Types of Business and Industry

(N = 38)

Type of Business or Industry	CLOSENESS OF COOPERATION: Percent Not Applicable	Percent Not Close	Percent Somewhat Close	Percent Very Close	Totals
Large manufacturing (500 + employees)	13.5	8.1	35.1	43.3	100.
Medium manufacturing (100-500 employees)	5.5	2.7	45.9	45.9	100.
Small manufacturing (less than 100 employees)	2.6	0.0	42.1	55.3	100.
Retail stores	16.7	22.2	44.4	16.7	100.
Service (food, hotel, recreational)	13.5	13.5	54.1	18.9	100.
Financial institutions	16.2	16.2	56.8	10.8	100.
Proprietary schools (Smokeenders, Lean Line, TM, etc.)	55.6	33.3	11.1	0.0	100.
Other	27.3	0.0	9.1	63.6	100.

programs and business and industry is desirable, then we need to understand what accounts for success and failure in establishing that cooperation. To provide an understanding for such a question, respondants were identified as being successful, unsuccessful and non-cooperators. The successful cooperators are the ones who indicated that they had formally cooperated with business and industry during the past full year and that their cooperative relationships were successful. The unsuccessful groups included those who indicated that although they had formally cooperated with business and industry during the past year, their cooperative relationships were unsuccessful. The third group, non-cooperators, was comprised of all those programs which reported they had not formallly cooperated with business and industry. Included in the survey are the following variables which could affect the success and cooperation between Area Vocational-Technical Schools Adult Education Programs and business/industry: number of years the director has directed adult education in his/her district; the number of hours per week the director devotes to adult education; hours per week spent contacting members of the community to promote or expand agency services; total program enrollment; operating budget; percent of students enrolled in general enrichment versus ABE/ESL/HFC classes; location of courses; extent of urbanization in the district; program priorities; educational status of the district; and degree of industrialization of the district. When these variables were compared with the three groups, the following results appeared.

Table 4 reveals that organizational variables (program size, budget), environmental variables (urban-rural orientation, educational level of district), and director background variables (number of years in district,

TABLE 4

Comparison of Successful, Unsuccessful, and Non-Cooperators With Business and Industry According to Selected Organizational, Director Background and Environmental Variables

Characteristic	GROUP		
	Successful Cooperators	Unsuccessful Cooperators	Non-Cooperators
	(N=28)	(N=11)	(N=5)
Number of years directed adult education in district	7.4 hours	5.3 hours	8.0 hours
Number of hours per week director devotes strictly to adult education	25.2 hours	24.8 hours	3.3 hours
Average number of hours per week director spends contacting community members to promote or expand agency service	6.9 hours	3.4 hours	0.25 hours
Total enrollment, current school year	1,697	1,228	445
Total operating budget	$710,061	$105,061	$20,125
Percent of students enrolled in general enrichment courses	26.1%	10.3%	45.3%
Percent of students enrolled in ABE/ESL/HSC	3.9*	7.5%*	1.7%
Percent of students enrolled in vocational courses	82.0%	87.9%	64.8%
Percent of students residing in rural areas	34.1%	41.5%	35.0%
Percent of students residing in suburban areas	39.8%	43.0%	48.8%
Percent of students residing in urban areas	34.5%	28.6%	33.4%

*Difference between groups significant at .05 level (Two-tailed T-test)

percent of effort devoted to adult education) seem to have little relationship to the success of cooperation with business and industry.

If organizational, environmental, and director background variables do not significantly relate to success of cooperation with business and industry, what factors do affect or relate to cooperation? To answer this question, the study attempted to analyze programs that indicated successful cooperation first and programs that indicate unsuccessful cooperation, second.

Table 5 includes the comparison of mean scores of successful/non-successful cooperators based on ratings of factors which limit involvement with business and industry. With respect to factors perceived as limiting involvement with business and industry, there is one significant result: based on their experience with business and industry, unsuccessful cooperators were more likely to report that cooperation was not worth the effort. Alternatively, directors who believe that cooperation is not worth the effort might fail to expend the effort required to make cooperative relationships successful. Although it is not possible to determine from the data which interpretation is the most accurate, it is clear that attitudes related to the value of cooperation with business and industry are significant factors in the perceived success of cooperation. Table 5 also indicates that, based on the responses, competition with other adult schools and community colleges, limits opportunities for cooperation.

Table 6 summarizes the comparison of mean scores of successful and non-successful cooperators based on ratings of benefits and costs received from cooperation with business and industry. Successful cooperators with business and industry feel that they get more benefits

TABLE 5

Comparison of Mean Scores of Successful and Unsuccessful Cooperators Based on Ratings of Factors Which Limit Involvement With Business and Industry

Factor Limiting Involvement	Successful Cooperators (N=27)	Unsuccessful Cooperators (N=11)
There is little or no business/ industry in my area.	2.1	2.7
There is little offered by my program which business and industry needs.	1.7	2.0
I do not have enough time to make arrangements.	2.4	2.1
I don't know how to contact business and industry.	1.0	1.2
I don't know what needs business and industry has.	2.0	2.4
School district regulations or policies make it difficult to work with business and industry.	1.7	1.2
Competition with other adult schools, community colleges, limits opportunities for cooperation.	2*	3.3*
Experience with business and industry in the past leads me to believe that cooperation is not worth the effort.	1.5	1.9
I see no advantage to cooperating with business and industry.	1.4	1.5

*Difference between groups significant at .05 level (Two-Tailed T-Test)

TABLE 6

Comparison of Mean Scores of Successful and Unsuccessful Cooperators Based on Ratings of Benefits and Costs Received From Cooperation With Business and Industry

Benefits	Successful Cooperators (N=28)	Unsucessful Cooperators (N=10)
Increased enrollments	3.5 *	2.1*
Increased funds	3.1*	1.4*
Access to needed facilities, equipment, or materials	3.5*	2.2*
Increased visibility for program	4.0*	3.0*
Access to needed instructional expertise	3.9*	2.0*
Increased influence of program in community	4.1*	3.1*
Provision of support services	2.6*	1.2*
Increased autonomy for program	3.25*	2.3*
Costs		
Loss of program flexibility	1.7	1.7
Excessive expenditure of time	2.4	2.2
Programming hassles	2.0	2.0
Excessive fiscal expenditures	1.9	1.5
Scheduling problems	2.3	1.8
Negative publicity	1.4	1.3

*Difference between groups significant at .05 level (Two-Tailed T-Test)

from the cooperation than unsuccessful cooperators. This is true for all benefits listed in the table, the differences are significant for all of them. Obviously, either unsuccessful cooperators feel unsuccessful because they expended a great deal of effort but failed to achieve benefits, or alternatively, they believed from the outset that the benefits received would be minimal and this belief became a self-fulfilling prophecy.

Whatever the reason, it is clear that the perception of benefits received in cooperating with business and industry is strongly associated with the perception of success for cooperative efforts. Interestingly, this does not seem to be the case, for there are significant differences between successful and unsuccessful cooperators with respect to the perceived costs incurred from the cooperation.

Barriers to Cooperation

One area which presents an understanding of success in cooperating with business and industry is barriers to cooperation. In order to analyze barriers to success, we compared the mean scores to successful, unsuccessful, and non-cooperators based on ratings of barriers to cooperation with business and industry. This can be seen in Table 6

The barriers to cooperation are basically of two types. First, barriers pertaining to factors internal to the adult education program are: constraints of time, competition, scheduling problems, lack of funds, programming hassles, lack of school system support, insufficient staff, and a need for caution in developing new programs. Of these internal barriers, none seems to be related significantly to the success fo cooperation.

Second, barriers pertaining to the relationships between public school programs and business/industry are: poor communication with business and industry, lack of business and industry interests, differences

between the goals of the private sector and those of the public school program, image of the public school program held by business and industry, and the perception that the private sector institutions are interested in profit rather than education. When mean differences are examined, lack of business and industry interest, and private sector interest in profit not education, appear to be statistically significant (Table 7).

It is interestingly to note that while there is no statistically significant differences in forms of internal barriers, there are significant differences in terms of relationships between public school adult education programs and business/industry.

To be more specific, successful cooperators perceive lack of business and industry interest and private sector interest in profit not education to be less important barriers than do unsuccessful cooperators.

It would seem that many of the barriers that typically constrain adult education programs, such as time, money, scheduling, support and competition are not related to AVTS adult education director's perceptions of their success in cooperation with business and industry. The barriers that do tend to make a difference in perceptions of success relate to the cooperation between AVTS adult education programs and business and industry.

Based on survey responses, Table 8 indicates that the benefits received from business/industry cooperation by programs that have been involved in a cooperative effort. Although most benefits are perceived moderately, increased influence of programs in the community and increased visibility of programs are perceived as having benefitted the most overall. Survey results indicate that the provision of support services and increased funds received little or no benefit.

TABLE 7

Comparison of Mean Scores of Successful, Unsuccessful and Non-Cooperators Based on Ratings of Barriers to Cooperation With Business and Industry

Barriers to Cooperation	Successful Cooperators (N=28)	Unsuccessful Cooperators (N=11)	Non-Cooperators (N=5)
Constraints on my time	2.6	3.0	3.8
Competition from other programs	2.5	2.9	1.8
Poor communication with business and industry	2.4	2.5	3.6
Lack of business and industry interest	2.3*	3.7*	3.4
Scheduling problems	2.3	2.2	3.0
Lack of funds	3.2	4.2	4.0
Differences between goals of private sector and those of my program	1.9	2.2	1.8
Image of public school adult education held by business and industry	2.1	2.9	1.6
Programming hassles	1.8	2.2	2.2
Lack of support by school system	2.3	1.8	2.8
Insufficient program staff	3.0	3.3	2.8
Private sector interest in profit, not education	2.1*	3.2*	1.6
Need for caution in developing new programs	2.4	2.2	2.4

*Differences between groups significant at .05 level (Two-Tailed T-Test)

TABLE 8

Extent of Benefits Received by Public School Adult Education Programs from Cooperation With Business and Industry, in Percent

(N = 38)

Benefit	EXTENT TO WHICH BENEFIT WAS RECEIVED			
	Little or No Extent	Moderate Extent	Great Extent	Totals*
Increased enrollments	10.8	81.1	8.1	100.
Increased funds	24.3	70.3	5.4	100.
Access to needed facilities, equipment or materials	13.2	73.6	13.2	100.
Increased visibility for program	5.3	84.2	10.5	100.
Access to needed instructional expertiese	13.2	68.4	18.4	100.
Increased influence of our program in community	5.3	65.7	29.0	100.
Provision of support services (e.g., counseling)	29.7	67.6	2.7	100.
Increased autonomy for program	15.8	76.3	7.9	100.

Table 9 contains data relative to the extent of costs incurred by AVTS adult education programs in cooperating with business and industry. When program directors were asked to report the extent to which they incurred certain costs, time expenditures, programming hassles, and excessive fixed expenditure seem to be the greatest problem areas as far as costs for directors of AVTS adult education programs. It is obvious that the benefits of programs exceeded the costs as is shown by both Tables 8 and 9.

To develop effective strategies to enhance cooperation between AVTS adult education programs and business/industry, we need to look at the factors that are helping the cooperation and factors that are impeding the cooperation. In order to provide a clear understanding of such factors, first, all respondents were asked to point to what extent selected barriers had limited the cooperative effort. Second, directors, who reported unsuccessful cooperative programs, were asked to indicate their reasons for lack of success. Finally, directors who reported successful cooperation were questioned to what extent their success was attributed to various factors.

Examination of Table 10 reveals that lack of funds, insufficient program staff, lack of interest from business and industry and competition from other programs are major barriers limiting cooperation with business and industry. Other factors may be considered important barriers individually.

Lack of funds and insufficient program staff are important barriers because they are directly related to program resources. On the other hand, public school image of business and industry, lack of interest form

TABLE 9

Extent of Costs Incurred by Public School Adult Education Programs In Cooperating With Business and Industry, in ercent

(N = 38)

Cost	EXTENT TO WHICH COST WAS INCURRED			
	Little or No Extent	Moderate Extent	Great Extent	Totals
Loss of program flexibility	51.4	48.6	0.0	100.
Excessive expenditure of time	29.0	68.4	2.6	100.
Programming hassles	40.5	56.8	2.7	100.
Excessive fiscal expenditure	40.6	56.7	2.7	100.
Negative publicity	66.7	33.3	0.0	100.

TABLE 10

Directors' Perceptions of Extent to Which Selected Barriers Limit Cooperation With Business and Industry, in Percent

(N = 44)

Barrier	EXTENT TO WHICH BARRIER LIMITS COOPERATION: Little or No Extent	Moderate Extent	Great Extent	Totals
Constraints on time	22.7	61.4	15.9	100.
Competition from other programs	18.2	75.0	6.8	100.
Poor communication with business and industry	25.6	65.1	9.3	100.
Lack of business and industry interest	18.2	70.5	11.3	100.
Scheduling problems	23.3	74.4	2.3	100.
Lack of funds	18.6	44.2	37.2	100.
Differences between goals of private sector and those of my program	42.9	52.4	4.7	100.
Image of public school adult education held by business and industry	36.4	54.6	9.0	100.
Programming hassels	37.2	60.5	2.3	100.
Lack of support by school system	37.2	60.5	2.3	100.
Insufficient program staff	14.0	65.1	20.9	100.
Private sector interested in profit, not education	25.6	69.8	4.6	100.
Need for caution in developing new programs	30.2	67.5	2.3	100.

business/industry, and competition from the other programs could be interpreted as weak committments to the cooperative effort.

Another way to look at the barriers is to determine what factors prevented programs that have cooperated with business and industry from cooperating successfully. Unsuccessful cooperators were asked to indicate the degree to which certain factors had contributed to lack of success.

A look at Table 11 shows the perception of unsuccessful cooperators which contributed to a program's success negatively. Lack of committment by business and industry seems to be the major barrier. Following lack of committment by business and industry is insufficient enrollment and poor communications as influential factors in a program's lack of success as cooperators perceived it.

Table 12 provides for a summary of factors contributing to the success of programs as perceived by successful cooperators. Also found in Table 12 are the rank ordered mean scale scores of various factors. The rank ordering is as follows: good communication with business and industry, employer satisfaction with outcomes, participant satisfaction, flexibility of agency in meeting business/industry needs, well defined program objectives, freedom given by the school system, image/visability of agency, strong business/industry support or interest, effective promotion/publicity, and clear division of program responsibilities.

Strategies for Building Cooperation: Their Nature and Efficiency

An analysis of strategy to establish cooperation is important, if we believe that such cooperation is desirable. We examine these strategies in terms of the type of strategy to establish cooperation (describing the method) and, analysis of success fo various strategies.

As is shown in Table 13, a majority of the programs used the five

TABLE 11

Unsuccessful Cooperators' Perceptions of Factors Which Limited Their Success at Cooperation With Business and Industry, in Percent

(N = 8)

	EXTENT TO WHICH FACTOR CONTRIBUTED TO LACK OF SUCCESS			
Factor	Little or No Extent	Moderate Extent	Great Extent	Totals
Scheduling problems	50.0	33.3	16.7	100.
Employer dissatisfaction with outcomes	83.3	16.7	0.0	100.
Participant dissatisfaction with program	83.3	16.7	0.0	100.
Financial burden on program	50.0	33.3	16.7	100.
Lack of committment by business and industry	14.3	57.1	28.6	100.
Insufficient enrollments or retention	33.3	50.0	16.7	100.
Insufficient publicity or promotion	66.6	16.7	16.7	100.
Unclear division of responsibilities	60.0	20.0	20.0	100.
Poor communication	33.3	50.0	16.7	100.
Program objectives poorly defined	66.6	16.7	16.7	100.

TABLE 12

Successful Cooperators' Perceptions of Factors Contributing to Success in Cooperating With Business and Industry, In Percent and by Mean Scale Score Rank

(N = 28)

Factor	Little or No Extent	Moderate Extent	Great Extent	Rank by Mean Score	Totals
Flexibility of my agency in meeting business/industry needs	0.0	50.0	50.0	4	100.
Freedom given me by school system	7.2	46.4	46.4	6	100.
Image/visibility of my agency	0.0	60.7	39.3	7	100.
Good communication with business and industry	0.0	39.3	60.7	1	100.
Clear division of program responsibilities	0.0	71.4	28.6	10	100.
Well-defined program objectives	0.0	53.6	46.4	5	100.
Effective promotion/ publicity	0.0	67.9	32.1	9	100.
Strong business/industry support or interest	0.0	64.3	35.7	8	100.
Participant satisfaction	0.0	57.1	42.9	3	100.
Employer satisfaction with outcomes	0.0	50.0	50.0	2	100.

TABLE 13

Incidence of Public School Adult Education Program Use
Of Various Methods for Establishing Cooperation
With Business and Industry, in Percent

(N = 29)

Method	Percent of Programs Using Method
Brochure mailing to business/ industry	89.3
Letters sent to busines/industry	96.6
Building on contacts through formal association/council meetings	96.6
Building on contacts through informal community social activities	96.6
Phone contact with business/ industry personnel	100.

strategies with high percentages, phone contact being the most important. By looking at the Table, it can easily be concluded that most programs use multiple strategies in settting up cooperation with business and industry.

An important question at this point, is to what extent each of those strategies are effective in setting up cooperation. To find the effectiveness of each strategy, cooperators with business and industry were asked to rate the effectiveness of each method. The results appear in Table 14.

Phone contact with business and industry and building on contacts through formal association/council meetings seems to be very effective in establishing cooperation. These two same strategies are also most commonly used.

The preceding analysis refers to all respondents that indicated that they had cooperated with business and industry. If we break down the respondents into two groups (successful cooperators and unsuccessful cooperators) a refined analysis of strategy success can be provided.

As is seen in Table 15, the mean effectiveness scores of unsuccessful and successful cooperators are very close. Two-tailed T-test results indicate that there is not a significant difference between the ratings of successful and unsuccessful cooperators at the .05 level of significance.

TABLE 14

Directors' Effectiveness Ratings of Methods Used to Establish Cooperation With Business and Industry, in Percent

(N = 29)

	EFFECTIVENESS RATING				
Method	Ineffective	Moderately Effective	Very Effective	Not Used	Totals
Brochure mailing to business and industry	10.7	53.6	25.0	10.7	100.
Letters sent to business and industry	3.4	79.4	13.8	3.4	100.
Building on contacts through formal association/council meetings	3.4	62.1	31.1	3.4	100.
Building on contacts through informal community social activities	3.4	79.4	13.8	3.4	100.
Phone contact with business and industry personnel	6.9	62.1	31.0	0.0	100.

TABLE 15

Successful and Unsuccessful Cooperators' Mean Scores For Effectiveness of Methods of Establishing Cooperation With Business and Industry

Method	MEAN EFFECTIVENESS SCORES	
	Successful Cooperators (N=24)	Unsucessful Cooperators (N=5)
Brochure mailing to business/ industry	3.2	2.75
Letters sent to business/ industry	3.2	3.6
Building on contacts through formal association/council meetings	3.7	2.8
Building on contacts through informal community social activities	3.2	3.2
Phone contact with business/ industry personnel	3.6	3.8

Difference between groups significant at .05 level (Two-Tailed T-Test)

SUMMARY AND CONCLUSIONS

The information presented here is a general summary of survey findings. Detailed information can be obtained by referring to the text and tables which comprise the body of this report.

1. More students were referred by business/industry to AVTS adult programs for vocational/technical training than for any other reason.

2. The average number of students enrolled in co-sponsored classes was greater for job-related enrichment activities.

3. Adult education directors reported a closer working relationship and cooperative effort with small industries (numbering less than 100 employees) than with large industries.

4. The average number of hours per week spent by adult program directors to promote their program in the community was approximately 25 hours for successful cooperators and 3 hours for unsuccessful cooperators.

5. Time constraints were considered to be a major problem in establishing cooperative efforts with business/industry.

6. Lack of business/industry interest was considered to be a major barrier to cooperation as did private sector interest in profit, not education.

7. Directors reported that the greatest benefits derived from cooperation with business/industry was increased visibility for their program and increased influence of the program in their community.

8. One of the greatest costs to the AVTS in cooperating with business/industry was programming hassles.

9. Lack of funds was perceived by Directors' as being the greatest barrier to cooperation with business/industry.

10. Unsuccessful cooperators listed lack of committment by business/industry as being the factor that most limited their successful cooperation.

11. Successful cooperators considered good communications with business/industry to be the most important factor contributing to their cooperative success.

12. The method most used to contact business/industry relative to establishing a cooperative program was the telephone.

The information contained in this study is somewhat detailed, therefore, drawing general conclusions is difficult. Major points have been covered in the summary above. However, several other points should be addressed in this conclusions. AVTS adult education programs are agencies of public school systems and are expected to provide a broad spectrum of offerings to the general public. The programs generally focus on what those in the community want and are willing to pay for either in taxes or tuition. Business/industry wants programs to meet their goals which usually are goals related to making a profit. AVTS adult programs are mainly concerned with a community context, business/industry operates within a commercial context.

The differences between education and business/industry are quite clear. Business/industry cannot change their mode of operation to better fit in with public education, therefore, AVTS adult programs will have to change in order to meet the demands of business/industry. It will be necessary if they sincerely want to establish a cooperative relationship. Even though major differences exist between public programs and business/industry, cooperation does exists. Results of this survey indicate that approximately 64 percent of the schools responding, reported successful cooperation with business/industry.

One final note, there appears to be a need for cooperative relationships being established with business and industry. Adult vocational education can provide a needed service to industry and become a viable economic force in Pennsylvania. This cannot be done by lip service, but by dedication and hard work along with a desire to make adult vocational education a part of the economic development of the state.